### (12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

## (19) World Intellectual Property Organization

International Bureau



# 08 JUN 2005

(43) International Publication Date 24 June 2004 (24.06.2004)

PCT

## (10) International Publication Number WO 2004/052815 A1

(51) International Patent Classification<sup>7</sup>: 43/10, B03D 1/008

C07C 43/11,

(21) International Application Number:

PCT/AU2003/001646

(22) International Filing Date: 9 December 2003 (09.12.2003)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

2002953252

9 December 2002 (09.12.2002) AU

(71) Applicant (for all designated States except US): HUNTS-MAN CORPORATION AUSTRALIA PTY LTD [AU/AU]; Newsom Street, Ascot Vale, Victoria 3032 (AU).

(72) Inventors; and

(75) Inventors/Applicants (for US only): LEEMING, Philip, Joseph [AU/AU]; 60 Rembrandt Drive, Mereweather Heights, New South Wales 2291 (AU). KNIGHT, Stewart, John [AU/AU]; 34 Walkern Road, New Lambton Heights, New South Wales 2305 (AU). LAZZARO, Salvatore [AU/AU]; 227 Lady Nelson Way, Taylors Lakes, Victoria 3038 (AU). ASTON, Jeffrey, Roy [AU/AU]; 2 Sabot Court, Taylors Lakes, Victoria 3038 (AU). PARRIS, David, Hayshiv [AU/AU]; 6/2 Manningham Parade, Parkville, Victoria 3052 (AU).

- (74) Agents: CAINE, Michael, J. et al.; Davies Collison Cave, 1 Nicholson Street, Melbourne, Victoria 3000 (AU).
- (81) Designated States (national): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.
- (84) Designated States (regional): ARIPO patent (BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

#### Published:

with international search report

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: COMPOUNDS AND COMPOSITIONS FOR USE AS FOAMING OR FROTHING AGENTS IN ORE AND COAL **FLOTATION** 

$$R_1$$
  $CH$   $O$   $(-CH_2$   $-CH_2$   $O$   $)_m$   $H$ 

$$R_1$$
 CH—O—(CH<sub>2</sub>—CH<sub>2</sub>—O—) $\frac{1}{n}$ H (II)

0 2004/052815 (57) Abstract: Compounds of formula (I) wherein R1 and R2 are each independently C1-C2 alkyl, and m is 1, 2, 3, 4, or 5 and compositions of formula (II) wherein R<sub>1</sub> and R<sub>2</sub> are each independently C<sub>1</sub>-C<sub>4</sub> alkyl, and n is an integer >\_0 and wherein the average molar value of n for the total of the compounds of formula (II) in said composition is in the range of (1) to (3) and methods for production thereof.

